Grainita meeting

Friday April 19th

Status of LPc test bench

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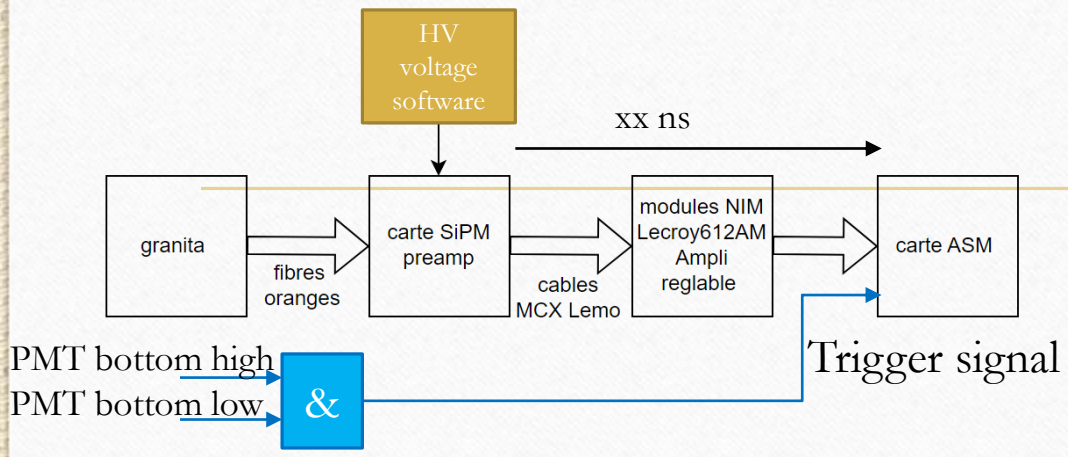
LPC Grainita test bench

- After few weeks to understand the setup and understand measurements .
- We have now a better knowing of the signals , we hope
  - After light issues ➔ solve by put more isolation
  - Adaptation of the signals: ➔ electrical analysis
    - Make a clean setup ☺
  - Found the good threshold for each channel ➔ thresholds scan
  - Mapping of the Troll
  - …

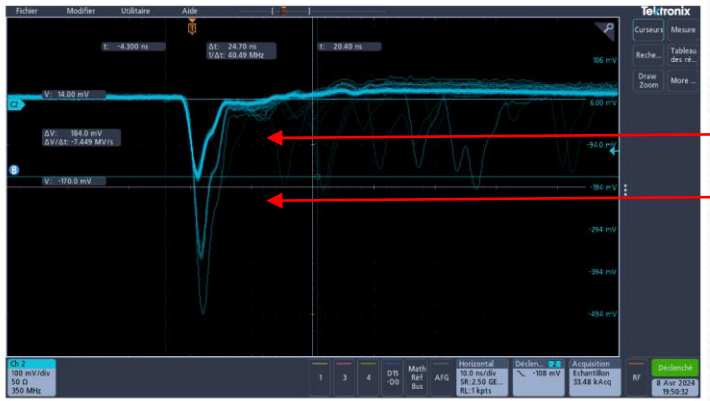
LPC setup – Troll way



At each trigger open a counting door for 2 counters by ASM inputs channels
12 bits for low level and 8 bits for high level

All the outputs signals of the troll are amplified and adjust to the same outputs level

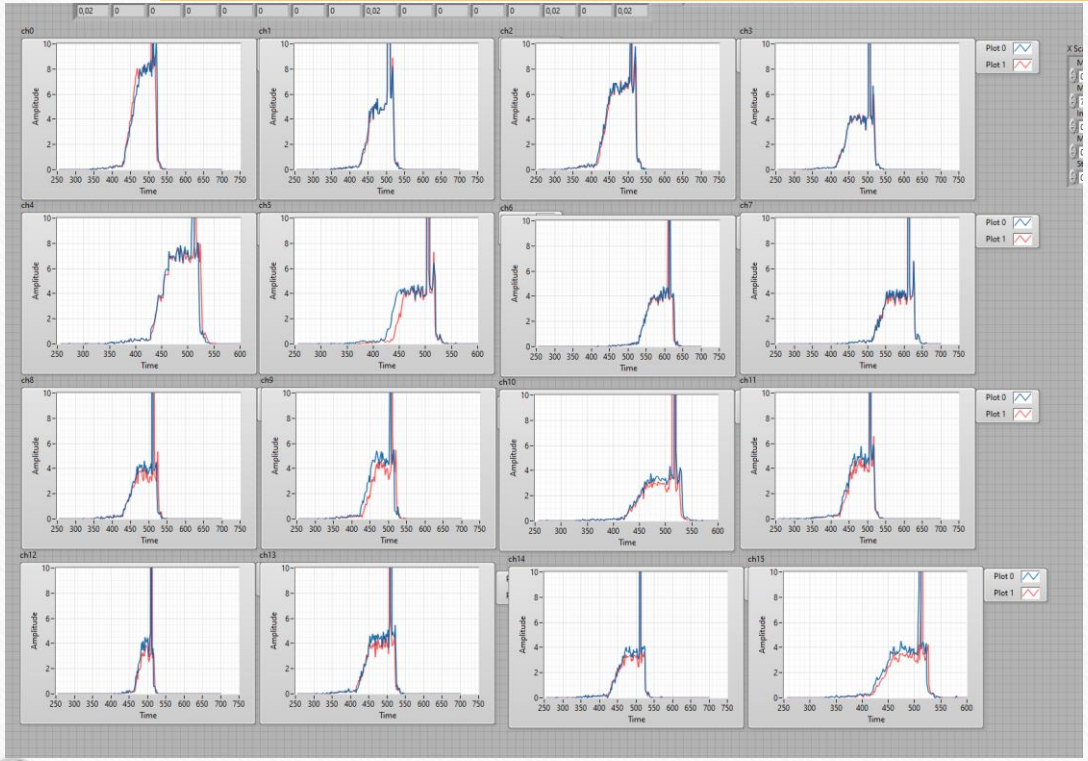
Typical amplifier output signal



2 thresholds levels for counter
Low
high

Thresholds scan results

Threshold scan of 16 channels of the Troll (2 levels by channels (red and blue)



- ➔ Determination of the optimum threshold for counting the photons during the 25 µs door
  - ➔ Woks done
  - ➔ Automatic labview software done .
- ➔ Few channel are a little bit more noisy (0,2,4)
  - ➔ work in progress
- ➔ The channel 12 is very small
  - ➔ Works in progress

Acquisition software

- **A labview program for PMTs and Grainita :**
  - Digitazation of the both PMT Bottom (low and high) and the PMT Top signals and determine the max amplitude for each signal
  - Give the time stamps of the event
  - Return the value of the 32 (high & low) counters of the event
  - Some adding inputs can be used for additional signal (24 by board)
    - Now : 16 for troll signal / 3 for PMTs /1 for trigger signal
- **Own Timepix acquisition :**
  - Corelation of the both system in progress see Hervé talk
- **Need to be done :**
  - The max data rate of the acquisition
  - The dead time
  - USB charge between time pix and ASM acquisition